

as shown in the attached clean set of amended and new claims, Attachment C. For convenience in correlating this divisional application with prosecution in the parent application, the claim numbering has been carried forward.

#### REMARKS

The following remarks are brought forward from the Amendment After Final, filed on 16 Oct 2000, in the parent application.

#### 35 U.S.C. 103

Claims 1-7, 9-16, 20, 33, 34, 36, 48, 54, 56, and 59 were rejected in the parent application under 35 U.S.C. 103(a) over IBM technical disclosure bulleting titled "Managing Workflow Using Database Techniques" (hereafter IBM, or IBM bulletin) in view of Billyard GB 2,271,260 (hereafter, Billyard).

Applicants observe that claims 50-53 had been allowed in the parent application (Examiner Communication, mailed

8/15/00, paper no. 5), but indicated as not allowed in the Advisory Action (mailed 11/7/00, paper no. 7). These claims have been carried forward to this divisional application for further prosecution. Applicants are not able to respond to the rejection of these claims, for no reason was provided by the Examiner.

With respect to claims 1-7, 9-16, 20, 33, 34, 36, 48, 54, 56, and 59, the rejections of the Examiner seem to rest on these two ideas:

1. That the IBM Bulletin, because it contains a business process, can be interpreted to be a method of representing all business processes.
2. That Billyard, because it represents physical objects in 3-dimensional space, can be interpreted to be a method for representing anything (or at least, business processes) in a 3-dimensional space.

To elaborate on what applicants characterize as Examiner position 1;

Concerning the IBM Bulletin, it is true that it portrays a business process. And parts of its description can be

interpreted as a noun, verb and adjective. But it is very apparent that this is not meant to be portrayal of all business processes. Nor is the breakdown into the {noun, verb, adjective} tuple called out in IBM Bulletin. The fact that the single business process (or small collection of business processes) portrayed in the IBM Bulletin can be cast as a tuple as defined in applicants' invention, is merely an example of the power of applicants' invention to encompass and represent all business processes.

Said another way; any prior art containing a business process should be able to be cast as a (perhaps complex) set of tuples (this is part of the point of applicants' invention). That does not make these business processes a general method of representing all business processes.

And, of course, unlike applicants' invention, the IBM Bulletin is not about representing business processes, but rather is concerned with "managing workflow using database techniques".

To elaborate on what applicants characterize as Examiner position 2;

Of course, physical objects exist in 3-D space, and computer

representations of physical objects must deal with 3-D space. The jump from physical objects to the abstract entities that are business processes is not supported by any of the Billyard teachings.

There is value in being able to represent abstract entities in a 3-D space, largely due to people's innate and intuitive grasp of these spaces. This is partly what makes representing business processes in a 3-D space useful. The key to applicants' invention is in identifying the three dimensions (verb, noun, adjective) that can be used to represent business processes. Then, exploiting that representation.

These two distinctions, (1) the three dimensions (noun, verb, adjective tuple) used (2) to represent any business process, are present in all of the claims under rejection.

Responding to Examiner's points in response to applicants assertions in the previous amendment;

Page 11, "a. The applicant argues that the IBM Bulletin doesn't disclose a business process. ..."

Response: applicants agree that IBM Bulletin does disclose

a business process. What it does not do is disclose a system or method, or the like, for representing (any or all) business processes. Applicants have amended claim 1 and others to clarify this point.

Page 11, "b. ... . The Examiner asserts that the individual pieces are not the business process itself but combined together they represent a business process or process of a business."

Response: Applicants agree. IBM Bulletin does contain a business process. The invention which applicants have made and claim concerns recognizing the three elements (noun, verb, attribute) as common to all business processes and in using these to decompose any given business process into these three entities, hierarchically. Then, to use these three decompositional elements to define a space, conveniently represented as 3-dimensional, that can be used to hold (in theory) all business processes. The Examiner has essentially stated the opposite -- that a noun, verb and attribute can be combined into a business process.

Composition and decomposition are two sides of the same coin -- applicants' invention posits both the decomposition of business processes into tuples, and (unavoidably) posits the composition of businesses from tuples. All of applicants

unallowed claims refer to these tuples, or points, in 3-dimensional and/or navigation space.

Page 11, item b, continues; "The work-item defined in IBM Bulletin performs the function of a noun... . The Examiner assert that the reference does not have to use the same words ... ."

Response: Again, applicants agree that same words are not essential. (Just as important, mere verbal correspondence is not sufficient when the words represent significantly different concepts.) The business process in IBM Bulletin can be interpreted as containing a noun, verb (and adjective), and that it can be represented by applicants' invention. As such, it serves as an example of the general nature of applicants' invention to represent any business process.

Page 11, "c. Examiner asserts that the work-items are lists of work to be performed and since a verb is defined as, ..."

Response: as above -- IBM Bulletin serves as an example of how applicants' invention can encompass a business process that does not employ the tuples explicitly.

Page 12, "d. ... Examiner also asserts that Applicants argument that Billyard points do not represent a business process are moot because in response to application's argument against the references individually, one cannot show non obviousness by attacking references individually where the rejections are based on combinations of references. ..."

Response: The idea that by combining the IBM Bulletin (which contains an instance of a business process) with Billyard (which concerns representing physical objects in 3D space), can result in applicants' invention seems to applicants to be a huge conceptual leap. It leaves open the key question of how to define the dimensions. Neither the IBM Bulletin nor Billyard provide any guidance on this question, for business processes. In fact, the IBM Bulletin is very weak, and completely implicit, on the concept of a business process itself, so leaves open the question of what entity should be represented in a 3D space. And, of course, Billyard says nothing about business processes, nor how to separate or define the dimensions for business processes.

Quoting from the Examiner's original objection to claim 1:  
"It would have been obvious to a person of ordinary skill in the art at the time of the Applicant's invention to have

included displaying the points set forth in the IBM Bulletin as a point in navigation space because such a modification would define the extent of points for an object in each dimension and would provide a test for determining whether an object will be present in viewing space (page 3, lines 23-, page 4, lines 1-7)."

"...the points set forth in ...". What points are these? The Examiner is apparently referring to the Bulletin's work-lists and work-items. Applicants' invention claims business processes as the point, not the coordinates which locate the point in 3D space (the tuples of noun, verb, attribute). This illustrates the non-obviousness of applying a business process in the IBM Bulletin to the business process representation of applicants' claims.

"... in a navigation space ...". What navigation space would have been obvious to a person of ordinary skill in the art, from reading IBM Bulletin? The IBM Bulletin does not mention any such space, does not define its dimensions, nor the values for those dimensions. Hence, the ancillary properties of the applicants' navigation space (nested spaces, access to the business process definition, etc.) are not evident, and not obvious, in the IBM Bulletin.



"...would define the extent of the points..." The IBM Bulletin does not define the extent of values possible for each dimension. And, of course, Billyard does not either, since it deals with physical space, whose dimensions are defined by length, width and height. Again, this illustrates the non-obviousness applying the IBM Bulletin to applicants definitions of noun, verb and adjective dimensions.

Page 12, "e. In response to claim 2, applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. ..."

Response: To reiterate the point made above; combining IBM Bulletin with Billyard does not define the 3 dimensions that generalize business processes. Applicants assert the combination, by "ordinary skill", could not result in applicants' invention. In this case, the "hindsight" reasoning applicants object to relies so entirely on applicants' own disclosure as to be unsustainable.

Page 12, "f. In response to claim 3 and 4, applicant's argument that the references fail to show certain features

of applicant's invention, it is noted that the features upon which applicant relies ... are not recited in the rejected claim(s). ..."

Response: Applicants have amended claim 3 to clarify that the zoom feature of applicants' invention relates to displaying within hierarchically nested navigation space logical changes in context for navigating the process space to explore or define business processes. Claim 4 depends from claim 3.

Page 13, "g. In response to claim 5, the Examiner asserts that a database of the Workflow process and definition exists in IBM Bulletin."

Response: Applicants agree that IBM Bulletin has a database. The point is that is it not a database of generally represented business processes. Applicants have amended claim 5 to clarify this distinction.

Page 13, "h. In response to claim 6, The Examiner asserts that IBM Bulletin reaches that depending on the work-items, the users ... Change the work-list accordingly."

Response: claim 6 is about editing the business process

itself (something missing from the IBM Bulletin), not updating data that is the subject of the business process. If business process A (for example) concerns obtaining the result of a medical test, the data obtained is the subject of business process A. Our claim 6 is about editing (changing) business process A itself.

Page 13, "I. In response to claim 7, The Examiner asserts that on page 200 of IBM Bulletin it discloses that humans or users can invoke the work to be performed on the work-items."

Response: Yes, humans or users can invoke the business process portrayed in the IBM Bulletin. This is not the same as selecting a business process in the context of all other defined business processes (for an organization) in a 3D process space, and causing the selected process to be executed. This context is key to applicants' invention. Applicants have amended claim 7 to clarify this point.

SUMMARY AND CONCLUSION

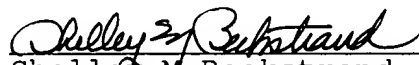
Applicants urge that the above amendments be entered and the case passed to issue with claims 1-7, 9-16, 20, 33, 34, 36, 48, 50-54, 56 and 59.

If, in the opinion of the Examiner, a telephone conversation with applicants' attorney could possibly facilitate prosecution of the case, he may be reached at the number noted below.

Sincerely,

E. B. Boden, et al.

By

  
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1 1. [Amended] Method for representing any business process  
2 or processes as a set or sets of tuples, comprising the  
3 steps of:

4 defining each of a plurality of processes as a 3-tuple  
5 including a noun, a verb and an attribute; and  
6 displaying a selected process as a point in navigation  
7 space.

1 2. The method of claim 1, further comprising the steps of:

2 displaying selection lists, including a noun selection  
3 list, a verb selection list and an attribute selection  
4 list;

5 responsive to user selection of a 3-tuple including  
6 noun, a verb and an attribute from said selection  
7 lists, highlighting the point in navigation space  
8 corresponding to said 3-tuple.

9 3. [Amended] The method of claim 1, further comprising  
10 the steps of:

11 responsive to user selection of a zoom in action in



12 connection with a selected process point, determining  
13 if said selected process point is zoomable; and, if so  
  
14 highlighting in a new navigation space the process  
15 points referenced by selected process point  
16 definitions;

17 said zoom actions displaying within nested navigation  
18 space logical changes in context for navigating said  
19 process space to explore or define business processes.

1 4. The method of claim 3, further comprising the steps of:

2 responsive to user selection of a zoom out action in  
3 connection with a selected process point, determining  
4 if said selected process point is zoomable; and, if so  
  
5 highlighting in a new navigation space the zoomed to  
6 process point.

1 5. [Amended] The method of claim 1, further comprising the  
2 steps of:

3 responsive to user selection of a create process  
4 action, accepting and storing a 3-tuple and process

5 definition in a database of generally represented  
6 business processes.

1 6. [Amended] The method of claim 5, further comprising the  
2 steps of:

3 responsive to user selection of a process edit action  
4 in connection with a selected process, displaying the  
5 process definition corresponding to said selected  
6 process for editing said selected process by said user.

1 7. [Amended] The method of claim 5, further comprising the  
2 steps of:

3 responsive to user selection of a run process action in  
4 connection with a selected process from within the  
5 context of all other defined business processes for an  
6 organization in a multi-dimensional process space,  
7 executing said process.

1 *a3* 9. [Amended] System for representing any business process  
2 or processes, comprising:

3 a store containing for each of a plurality of said  
4 processes a 3-tuple including a noun, a verb and an

5 attribute; and

6 a display operable to display a selected process as a  
7 point in navigation space.

1 10. [Amended] A program storage device readable by a  
2 machine, tangibly embodying a program of instructions  
3 executable by a machine to perform method steps for  
4 representing any business processes, said method steps  
5 comprising:

6 defining each of a plurality of said processes as a 3-  
7 tuple including a noun, a verb and an attribute; and

a3

8 displaying a selected process as a point in navigation  
9 space; said point representing logical changes in  
10 context of said navigation space for exploring or  
11 defining business processes.

1 11. [Amended] An article of manufacture comprising:

2 a computer usable medium having computer readable  
3 program code means embodied therein for displaying  
4 representations of any business processes, the computer  
5 readable program means in said article of manufacture

6 comprising:

7 computer readable program code means for causing a  
8 computer to effect defining each of a plurality of said  
9 processes as a 3-tuple including a noun, a verb and an  
10 *AB* attribute; and

11 computer readable program code means for causing a  
12 computer to effect displaying a selected process as a  
13 point in navigation space; said process point  
14 representing logical change in context of said  
15 navigation space for exploring or defining business  
16 processes.

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